(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



550223

(43) International Publication Date 10 June 2004 (10.06.2004)

PCT

(10) International Publication Number WO 2004/047950 A1

(51) International Patent Classification⁷: **B01D 39/00**, 39/06, 53/02, 53/44, 53/52, 53/64, 53/72, B05D 1/02, 3/02

(21) International Application Number:

PCT/US2003/037894

(22) International Filing Date:

25 November 2003 (25.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:
60/428,958 25 November 2002 (25.11.2002) US
65/512,841 20 October 2003 (20.10.2003) US

- (71) Applicant (for all designated States except US): PU-RAFIL, INC. [US/US]; 2654 Weaver Way, Doraville, GA 30340 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ENGLAND, William, G. [US/US]; 2654 Weaver Way, Doraville, GA 30340 (US).
- (74) Agents: PRATT, John, S. et al.; Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, GA 30309 (US).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HIGH CAPACITY SOLID FILTRATION MEDIA

(57) Abstract: A high capacity filtration media, method of preparing the media, and method of treating a fluid stream with the media are provided. The media contain a porous substrate impregnated with high concentrations of a permanganate. Preferably, the media includes a porous substrate impregnated with at least about 8% permanganate by weight. The media can optionally contain sodium bicarbonate. Improved capacity for the removal of undesirable compounds such as ethylene, formaldehyde, hydrogen sulfide and methyl mercaptan are achieved.

